

**IRON AND STEEL STAKEHOLDER MEETING**  
**Possible Revisions to 40 CFR Part 420**  
**Iron and Steel Effluent Limitations Guidelines**  
**WASHINGTON, D.C.**  
**JANUARY 4, 2000**

This document summarizes the Iron and Steel stakeholder meeting sponsored by the U.S. Environmental Protection Agency (EPA or the Agency) at the Channel Inn, Washington, D.C., January 4, 2000. The objectives of the meeting were to have a free exchange of information and ideas among meeting participants about potential revisions to 40 CFR Part 420 and to solicit comments, issues, and new ideas from interested stakeholders. Attendees at the meetings included representatives from several steel manufacturing facilities, steel industry trade associations, EPA's Effluent Limitations Guidelines Task Force, EPA's Office of Water, and EPA's contractors for this project. A list of attendees is included in Attachment A.

During the meeting, EPA presented subcategorization and corresponding technology options under consideration, production-normalized flow rates (PNFs) reported from survey responses, preliminary concentrations representing Best Available Technology (BAT), and average pollutant concentrations from sampling episodes, where available. A copy of the presentation titled "EPA Stakeholder Meeting, Development of Effluent Limitations Guidelines for the Iron and Steel Point Source Category, January 4, 2000, Washington, D.C.," is available at <http://www.epa.gov/ost/ironsteel>. Meeting participants discussed ideas and concerns throughout the meeting in an informal manner. Although no formal record of the discussions was made, this document presents a summary of EPA's meeting notes and preliminary responses to the issues raised.

At the meeting, EPA encouraged participants to supplement their oral statements with written statements and supporting data.

The statements, issues, and concerns summarized below were presented by members of the audience during the stakeholder meeting. When possible, EPA staff responded to questions at the stakeholder meeting. In many instances, preliminary responses have been provided in this document to describe EPA's current thinking although these responses are subject to change. For many of the issues raised, it is too early in the process for the Agency to provide responses.

**General Statements, Issues and Concerns**

- 1) Why is there a need to include PNFs in the regulation? Is it to account for the diversity in the industry? How will this new approach affect the calculation of limitations, particularly for finishing?

***Response:*** EPA will follow the same procedure as it has in the past to develop effluent limitations guidelines and standards. However, for certain subcategories including steel finishing, EPA is considering a revised regulatory format which would include a table of model BAT, process-specific PNFs and a separate table of model BAT effluent concentrations. The mass NPDES permit effluent

limitations would be calculated as the product of the sum of the model BAT flow rates for the operations present and the model BAT concentrations. The regulation would state that permit holders would be free to use any combination of actual flows and effluent concentrations to achieve the permit effluent limitations and would not be bound to achieve either the sum of the model BAT flows for all operations, the model BAT flow for any operation, or the model BAT effluent concentrations. This is consistent with the obligations of permit holders under the current 40 CFR Part 420, whereby compliance with the permit effluent limitations is the obligation of the permit holder, not installation of any particular technology nor attainment of any particular effluent flow or any particular effluent concentration.

EPA is considering this approach to streamline and simplify the regulation and to facilitate implementation of regulatory flexibility provisions whereby permit writers would be authorized to provide supplemental allowances for miscellaneous wastewater flows which are not regulated under the current 40 CFR Part 420.

- 2) The use of PNFs for the development of new limitations does not account for variability and other factors that contribute to a particular discharge. Given that there are water quality limitations and TMDLs currently in place, the development of new ELGs does not seem to make sense or provide any benefit. How are the guidelines derived and how do they relate to water quality-based effluent limitations?

**Response:** With respect to the first issue raised above, EPA uses a multi-step process for developing effluent limitations guidelines that includes both engineering and statistical considerations. Best available technologies are identified primarily through engineering analyses comprising assessment of manufacturing processes; generation of pollutants from those processes; and technologies for treating or removing those pollutants from process wastewater streams. For the current Part 420 and for possible modifications to Part 420, performance of the best available technologies is characterized by effluent quality in terms of concentrations of regulated pollutants and effluent flows for each subcategory in terms of PNFs. The model BAT concentrations and flows are determined independently.

#### Model BAT effluent concentrations

A statistical methodology is used as a framework to establish effluent limitations that facilities are capable of complying with at all times. EPA has the authority to develop BAT effluent limitations guidelines based on limited data from full-scale facilities and from pilot plant data. However, for the most part, the model BAT concentrations, or performance values, are derived from long-term effluent quality data obtained at manufacturing facilities that have installed and effectively operate the best available technologies. These model BAT concentrations are the products of the long-term average of the data and monthly and daily variability factors. The variability factors account for expected monthly and daily process

and wastewater treatment system variability from well-operated processes and wastewater treatment systems. Monthly variability factors ( $VF_M$ ) are based on statistics that provide an estimate of the 95<sup>th</sup> percentile of the distributions of monthly averages of daily measurements. Daily variability factors ( $VF_D$ ) are based on the 99<sup>th</sup> percentile of daily measurements for large data sets, or statistics that estimate the 99<sup>th</sup> percentile of the daily measurements. EPA intends that dischargers design wastewater treatment systems to achieve the long-term average consistently and manage process and wastewater treatment system variability to achieve applicable effluent limitations at all times. The 95<sup>th</sup> and 99<sup>th</sup> percentiles do not relate to, or specify, the percentage of time a discharger operating the best available technology will meet (or not meet) the applicable limitations or standards. Rather, these percentiles relate to development of one aspect of the steel industry effluent limitations guidelines and standards, the model BAT effluent concentrations.

The statistics used to develop the variability factors are set out in Appendix A of Volume I of the Iron & Steel Development Document (EPA 440/1-82/024, May 1982). More information about EPA's statistical approach to developing effluent limitations guidelines and compliance determinations can be found in "Chapter 1 - Response to Comments on Compliance with Limitations" from EPA's response to public comments in the Pulp, Paper and Paperboard effluent limitations guidelines. Copies may be requested from the EPA Iron and Steel Project Officer, George Jett (202.260.7151).

#### Model BAT effluent flow rates

Because effluent flow is under the direct control of the permit holder through process modifications (e.g., cascade rinsing and recycle of fume scrubber waters for pickling operations) and installation and optimization of high-rate recycle systems for process waters (e.g., blast furnaces, basic oxygen furnaces, continuous casters, hot forming mills), the model BAT effluent flow rates for the current Part 420 were developed independently from the model BAT effluent concentrations. This will also be the case for modifications to Part 420 now under consideration.

#### BAT effluent limitations guidelines and permit limits

The BAT effluent limitations guidelines are determined from the product of the model BAT effluent concentrations and the model BAT effluent flow rates on a subcategory-specific basis. The NPDES permit and pretreatment permit limits are determined from the product of the effluent limitations guidelines and a reasonable measure of actual production. Consequently, the 95<sup>th</sup> and 99<sup>th</sup> percentile statistics used to develop the model BAT effluent concentrations are not applicable to the BAT effluent limitations guidelines or the NPDES or pretreatment effluent derived therefrom, particularly as a means of assessing compliance. The Clean Water Act, implementation of effluent limitations

guidelines regulations, and NPDES permit and pretreatment regulations do not provide for acceptable rates of non-compliance.

EPA recognizes that modifications to 40 CFR Part 420 may require some dischargers that consistently meet effluent limitations based on the current regulation to improve treatment systems, process controls, and/or treatment system operations to consistently meet effluent limitations based on revised effluent limitations guidelines and standards. EPA believes that such a requirement is consistent with the Clean Water Act statutory framework which requires that discharge limitations reflect the best available technology, and that the best available technology should be redefined periodically. EPA's current schedule for revising 40 CFR Part 420 is a court-ordered schedule arising from litigation about the effluent limitations guidelines program.

With respect to water quality-based effluent limitations (WQBELs) and TMDLs, the Clean Water Act requires that the more stringent of technology-based effluent limitations derived from effluent limitations guidelines and standards and water quality-based effluent limitations derived from ambient water quality standards on a site specific basis be included in NPDES permits, including, where applicable TMDLs. The two types of NPDES permit effluent limitations are independent and reflect different Clean Water Act goals. On the one hand, the technology-based approach requires that dischargers achieve minimum national standards of performance no matter where they are located or the type of receiving water. On the other hand, WQBELs are derived to ensure local aquatic life and human health ambient water quality standards are achieved.

- 3) How will the revisions to 40 CFR Part 420 handle a site that is a special case and has a number of unique operations not generally seen throughout the industry?

**Response:** Under 40 CFR §122.21(m)(1), industrial permit holders may apply for fundamentally different factors (FDF) variances for unique operations or circumstances (i.e., factors that are *fundamentally different* than those upon which the effluent limitations guidelines were based) . Notwithstanding, EPA is planning to provide in a revised Part 420 increased flexibility so that permit writers will be authorized to address a broader range of site-specific issues than possible with the current Part 420. EPA's intent is to minimize the need for FDF variances, and solicits information about operations that may be unique so they may be considered appropriately as part of this rulemaking.

- 4) How does the Agency take into account the wide range of products that are produced, the different process wastewater flows, and the various types of equipment required to make these products? Product size, shapes, and coatings applied are very diverse across the industry. Is EPA's data set large enough to capture this diversity?

**Response:** EPA is considering a revised industry subcategorization to take into account distinct differences in the types of processes used in the steel industry. Steel

forming and finishing operations are those where issues raised above are most prevalent. For these subcategories, EPA plans to provide segments within subcategories to address significant differences in PNFs and possibly differences in treatment capability. EPA believes the database for the industry derived from the surveys is sufficiently large to address these issues.

- 5) Industry representatives commented that a 90-day response period following proposal of modifications to 40 CFR Part 420 will be insufficient and requested that EPA release additional data prior to proposal and hold additional stakeholder meetings. Additionally, industry representatives commented that they would be willing to analyze and provide comment on any data that EPA released early, even if the data were incomplete.

**Response:** EPA's court-ordered schedule for proposal and promulgation of possible revisions to 40 CFR Part 420 requires proposal by October 2000 and promulgation not later than April 2002. This schedule does not provide the opportunity for the approach advocated by industry representatives prior to proposal. At this writing, EPA is preparing the subcategory-specific databases, reviewing technology options and developing estimated costs of compliance. EPA held today's meeting to share EPA's current thinking about technology options, subcategorization, and approach to costing, and obtain feedback from all stakeholders present. From EPA's perspective, the meeting was successful and the exchange of information and ideas will be helpful for developing proposed revisions to 40 CFR Part 420. EPA believes the type of review and exchange advocated by the industry can be addressed as time and resources permit after proposal, but before the comment period for the proposed regulation closes.

Notwithstanding, EPA will consider making available prior to proposal through the Iron and Steel website information about PNFs and long-term average effluent quality so that stakeholders may have the opportunity to determine how possible revisions to Part 420 may affect their operations.

- 6) Does EPA consider electric arc furnace (EAF) air pollution control systems that incorporate moisture addition for peak temperature control (i.e., peak shaving) to be semi-wet air pollution control systems?

**Response:** For purposes of a revised Part 420, EPA considers such systems to be semi-wet air pollution control systems. These systems are operated typically with no wastewater discharge and EPA will likely propose a zero discharge standard for EAFs that are equipped with either dry or semi-wet air pollution control systems.

- 7) For those slides pertaining to *Draft Technology Options*, what is meant by BAT-1 and BAT-2?

**Response:** BAT-1 and BAT-2 refer to the treatment options that are currently under consideration as model BAT technologies. EPA will most likely pick one option for each subcategory for the proposal of a revised Part 420. These options and

EPA's methodology for their selection will be outlined in the technical development document. Options under consideration for the non-integrated subcategory currently include high-rate recycle and metals precipitation. Options under consideration for the finishing subcategory currently include: in-process controls, oil separation, and metals precipitation and filtration.

- 8) Although some of the reported PNFs are zero, it is almost impossible to achieve zero discharge 100 percent of the time. Has EPA followed up with the facilities that claim to be zero discharge to see if this is actually occurring?

**Response:** EPA has been following up with survey respondents on reported data that appear unrealistic. Although 40 CFR Part 420 focuses on process wastewater discharges and does not regulate moisture contained in wastewater sludges, the model BAT technologies incorporate mechanical sludge dewatering such that there should be no free liquids in dewatered sludges.

- 9) Will other statistical calculations be used besides the median value to determine the model BAT PNF for each subcategory?

**Response:** The median value was shown as a reference point for the data presented at the meeting. PNFs are determined primarily based on engineering considerations separately from the statistical approach used to develop the model BAT effluent concentrations. Such factors as achievable recycle rates, in-process flow reduction techniques, and ability to comply with air pollution control regulations (see below) are considered when developing PNFs.

- 10) In order to comply with the MACT standards for acid pickling, many sites feel that they have to operate their scrubbers in a once-through mode with a flow rate of 30 to 50 gallons per minute (gpm). Is EPA considering the effect of the MACT standards on a site's wastewater flow rate?

**Response:** EPA will take this into account when determining the appropriate flow rate for acid pickling fume scrubbing operations.

- 11) To what extent is vendor information being used to determine PNFs?

**Response:** Vendor information is being used on a limited basis for the costing effort. Vendor information is not being used to develop PNFs. PNFs are determined from survey data reported by the industry based on the following methodologies: For treatment systems for a single process, site-specific PNFs were determined by dividing the reported 1997 annual average effluent flow rate from Section 3 in the survey by the reported 1997 annual production. For other processes and for untreated process wastewaters, the PNFs were determined by dividing the average flow rates reported in Section 2 by the reported 1997 annual production for that process. Model BAT PNFs are being derived as described above.

- 12) Is EPA considering differentiating between batch and continuous processes for specialty steel?

**Response:** Yes, this will be reflected in the subcategory and segment-specific flow rates.

- 13) Have there been any significant changes in treatment since 1982?

**Response:** For the most part, the basic treatment technologies considered in 1982 are the same as those in use today. However, many sites have done a better job managing variability through use of in-process controls, process line and wastewater treatment system diversion tanks or structures, proper equalization, and better wastewater treatment system process control through use of modern instrumentation and controls. Consequently, performance in 1997 as measured by wastewater effluent quality is better overall than observed prior to 1982.

- 14) How is the Agency considering calculating production? Why not use the highest production number possible or the production number from the air permits?

**Response:** The highest production number possible is usually reflected in air pollution control permits which are often based on maximum hourly production and 8,760 hours per year of operation. The NPDES and pretreatment regulations require that mass, technology-based direct discharge and pretreatment limitations be based on a reasonable measure of actual production. For the steel industry, this has been the highest annual average production from the prior five years prorated to a daily basis, or the highest month over the prior year prorated to a daily basis. Some steel industry NPDES permit effluent limitations have been based on the highest monthly production over the prior five years prorated to a daily basis. Consequently, the NPDES permit and pretreatment limitations have been based on historical high production rates. In the event production increases occur and cause potential compliance issues, permit holders may choose to provide greater control of process and wastewater treatment system variability to achieve the limitations at production rates higher than used to develop the permit limits; upgrade wastewater treatment systems; or, request a modification of the permit based on the new higher production.

EPA is considering certain clarifications for determining the NPDES and pretreatment production rates for the steel industry. EPA intends to include those clarifications in a modified Part 420 to ensure even application of the regulation in NPDES and pretreatment permits. The clarifications will be consistent with the general requirements of the NPDES permit regulations regarding use of a reasonable measure of actual production to determine permit limits.

- 15) How should the industry respond if permit writers insist on using production numbers from two years of data?

**Response:** NPDES and pretreatment permit effluent limitations are usually based on NPDES or pretreatment production rates reported in NPDES or pretreatment permit applications. In the event permit issuance is delayed for a long period of time, such that production data in the permit application are no longer representative, a permit applicant is free to amend its permit application at any time. In the event a permit issuing authority does not take into account a reasonable measure of actual production in accordance with the NPDES or pretreatment regulations, a permit holder is free to comment on a proposed permit and subsequently appeal an issued permit to the appropriate authority, as it may deem appropriate.

- 16) Would an allowance for the treatment of ground water be broad or would it be related to production?

**Response:** An allowance for ground water would most likely not be production-related, but would be based on ground water remediation system actual or design flow rates. EPA recognizes that in some cases the most cost effective approach for treating contaminated ground water is to provide such treatment in process wastewater treatment systems where the quality of the ground water and process water is comparable or compatible. However, EPA does not intend that this regulatory flexibility provision be abused in a manner that would allow for inappropriate NPDES permit or pretreatment effluent limitations.

- 17) What needs to be done between now and July, when EPA submits the proposed revisions to the Office of Management and Budget?

**Response:** The work required prior to delivery of a proposed regulation to the Office of Management and Budget includes development of final technology options and regulatory PNFs; estimating costs of compliance; statistical analyses for development of model BAT effluent concentrations; economic achievability analyses; other regulatory analyses; and, internal EPA reviews.

- 18) Has there been any thought on extensions to the proposal or promulgation date?

**Response:** The court-ordered schedule does not allow for any extensions.

- 19) In past meetings, it has been mentioned that the cokemaking subcategory may be separated and proposed separately. Is this being planned?

**Response:** No, the Agency plans to propose revisions at one time for all subcategories in 40 CFR Part 420.



- 20) Will EPA include acid regeneration and/or acid purification as part of the model BAT technologies for acid pickling operations?

***Response:*** To the extent EPA includes acid regeneration or acid purification as part of the model effluent limitations guidelines technologies, it would likely do so only for New Source Performance Standards; however, a revised Part 420 would likely include allowances for process wastewaters from such processes, as does the current 40 CFR Part 420 for acid regeneration.

**U.S. EPA Iron and Steel Stakeholder Meeting - 1/4/2000**

<b>Name</b>	<b>Affiliation</b>
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George Jett	U.S. EPA - EAD
Kevin Tingley	U.S. EPA - EAD
Chris Avent	North Star Steel
Deborah Calderazzo	Allegheny Ludlum Corporation
Tom Danjczek	Steel Manufacturers Association
Mike Gipko	J & L Specialty Steel
Charlie Grizzle	Grizzle Company/California Steel Industry
Chris Hilborn	Hatch
Tim Keesling	AmeriSteel
Richard Klugh	Allegheny Ludlum Corporation
Janet Kopenhaver	American Wire Producers Association
Brad Kottak	American Wire Producers Association
Jeff Longsworth	Collier, Shannon, Rill & Scott
Sean McGowan	Carpenter
Mike Peters	SMI
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